Digging coal by wire

The Northern Pacific Railway mines coal for its own transcontinental trains.

At Colstrip, Montana, was a surface deposit that engineers had never found it practicable to work.

Now electric shovels dig the coal and giant storage battery locomotives haul it away to the main line.

Electricity has performed a like service for many industries where natural resources, without electricity, might have lain dormant for another hundred years.
Endowments a Vital Necessity

While it is true that the State of Georgia originally intended, no doubt, to provide for the maintenance needs of its higher educational institutions, it is just as true that it does not do so at all sufficiently, and unless Georgia Tech finds other means to meet the expenditures brought about by its consistently large growth, it will soon face a great barrier in the path of its progressive advancement.

A loyal, persevering, intelligent faculty has made the name of the Georgia School of Technology synonymous with efficiency, intellectual attainment, and mental endeavor; in fact, the public and business concerns have long since accepted the theory that its students must "work hard or fail".

But what of the future and provisions for normal growth alone? Judging from the past, it appears that if Tech is to keep pace at all with the many demands made upon it, there must be a certain and definite source of yearly increasing income, in addition to the State appropriations.

The magnificent Julius Brown Memorial Fund and the truly fine Robert Forrester Memorial Endowment together with the fraternity and individual insurance funds are most worthy and commendable steps in the direction of the school's greatest want, but as noble as these are, the fund needs decided augmenting both for the immediate present and the future.

The Georgia Tech plant has rapidly grown in magnitude through the generosity of those who contributed to the Greater Georgia Tech Expansion Fund, the Carnegie gifts, individual subscriptions to the Ceramics building and the other handsome memorial buildings on the campus with which all of you are familiar. The plant, however, must be adequately financed if it is to run with any degree of even moderate output.

Nearly $33,000, divided into thirty-two separate loan funds are available for scholarships. These, as headed by the Lewis H. Beck Fund of $25,000, were described in a former article. For the present, then, the question of scholarships is apparently provided for with ample means.

Maintenance and Departmental Chairs are chief among the urgent requirements. The graduating classes, alumni and friends could well leave their impress on coming generations by formulating endowments for Tech or by appealing to those philanthropists whom they may know as ones willing to perpetuate the greatness of their hearts by gifts that would be a boon to our future manhood.

Surely some of you have given the subject some serious thought, so write to Dr. Brittain or discuss your plans with him—it would most certainly lighten his load.
Georgia Citizens' Education Movement Report

The board of directors of the Georgia Citizens Education Movement met at the Biltmore Hotel, Atlanta, on Saturday, January 16, having as their guests the presidents of the state colleges, the State Board of Education, the board of directors of the Georgia Education Association and the president of the Association of the State A. & M. Schools.

State Superintendent of Schools, Fort E. Land, outlined a program of legislation which he expected to recommend to the State Board.

It was agreed by the educators present that education, both higher and common schools, should be advanced immediately by a state bond issue sufficient to take care of the minimum needs, both of the common schools and the institutions, for a period of five years. It was further agreed that the Legislature would be the best judge of the total amount of such bond issue, after the institutions had presented to the legislative committees a carefully prepared statement of minimum needs.

It was further agreed that the Citizens Education Movement could best assist in this effort for securing the submission of a bond issue by distributing general arguments in favor of educational bonds, and working through our local representatives to get the facts concerning the needs for building funds presented squarely to the members of the Legislature.

The directors put the movement on record as ready to start immediately a campaign for educational bonds and for the common school legislative program.

A simple constitution for the movement was adopted, providing: (1) for a state committee of 500, composed of citizens of Georgia who agreed to serve on the committee; (2) for a board of directors elected biennially by the committee of 500 by mail ballot; (3) for an executive committee of five citizens convenient to Atlanta, the Chancellor of the University and the State School Superintendent; (4) for an advisory committee composed of the educators who had been invited to the meeting.

Acting Chancellor, Charles M. Snelling, of the University of Georgia, outlined the needs of the colleges as follows:

“The colleges of the state are agreed that the opportunity of a decade is offered them in this extra-ordinary session of the Legislature. Struggling as they have during the past twenty years to provide training and equipment for life work, inspiration and culture for living to the youth of the state, with the same old equipment, they are looking with hope and confidence to our legislators. They believe that at last their cry is to be heard.

“Since practically nothing has been appropriated from the state treasury for buildings and equipment over a long period, we recognize that it would be impossible for the Legislature to submit a bond issue that would adequately equip the institutions, or bring our facilities to the point where they could be compared with the state supported institutions of some advanced states. We are just as much interested in the proper development of the elementary and high schools as the colleges, and we are eager to see the Legislature adopt a full rounded educational policy that will provide help where it is needed.

“For this reason the state institutions are preparing for the Legislature a brief statement of their emergency needs, which will be presented to the Legislature along with the requests of the common schools. We believe that these needs can only be met at the present time by a bond issue; the bonds to be issued as needed. We consider this the fairest, the most practical plan for such capital outlay, as it enables those who benefit most to share in paying the cost. We are certain that Georgia, whose government is the least expensive of any state in the Union, can easily handle the amortization of such bonds without
increasing the tax burden on those who are already overloaded—the property owners. Our present bonded debt is $1.82 per capita, while the average of all the states in the Union is $8.64.

To increase our wealth and develop our natural resources, to train our civic leaders and teachers, to increase our culture and enrich our life, the colleges of the state system have dedicated themselves. They only ask the Legislature to give them the tools with which to work. As to the total amount of the bond issue, the manner in which it is to be financed, we realize that these are questions for the law makers. We shall rest our case with them.”

Dr. Crenshaw Makes

Atlanta, Georgia,
January 25, 1926.

R. J. Thiesen,
Secretary Ga. Tech Alumni.

Friend Thiesen:

I wish to make a suggestion to the Tech alumni. It is as follows:

The alumni of many institutions have an annual celebration, a day on which the alumni get together at a banquet in their respective localities, recall old times at college, send fond greetings to Alma Mater and listen to some representative sent from their school who tells them what progress has been made in the past year by the institution along all lines, also reminiscences of teachers under whom many there present have studied. Such an annual banquet is held by Johns Hopkins Alumni every year on a date as near as possible to February 22. In Georgia, Dr. Emerson, myself and Dr. Maynard Poole began this Hopkins alumni group. We have had speakers every year from Hopkins to sit down with us and enlighten us on the troubles and triumphs of the school. We have had two presidents come to Atlanta on these occasions and other prominent men of the faculty. It serves to keep awake in our hearts and memories recollections of our college days and also the debt of gratitude which we owe to Hopkins.

Editor’s Note: Governor Walker has committed himself to an extra-ordinary session of the Legislature and is speaking over the State in support of his stand in the matter, and as it is quite certain that he will convolve the legislature on February twenty-fourth, it behooves every Georgia Tech man to put in a word with his representative back home, RIGHT NOW, in support of his own Alma Mater, in the first place, and that of the other state institutions and public schools as well. Regardless of personal convictions, the die has been cast and you will be remiss in your great duty toward education throughout your State, should you fail to seize upon the immediate opportunity confronting you.

Valuable Suggestion

Why can not the birth day of Governor N. E. Harris, founder, supporter, and only chairman of its Board of Trustees since it was established, be set aside as the DAY when this annual banquet is held wherever Tech men are found? Would it not be a great pleasure to the dear good man to know that every year in the future history of the school his birthday would be celebrated along with the deeds of HIS school and a few words said at least to keep green what he has done for Georgia? And now when radio links every part of our land together, would it not be possible for each of the groups so gathered to hear at one and the same time a few words from the actual president of Georgia Tech, and throughout Governor Harris’ life his voice should be sent out along the radio route to listening Tech alumni. You can not estimate the good that such a day would do especially in cementing and fostering the “old Tech spirit.”

Pass along the idea through your columns, Mr. Secretary, and see what your alumni think of it.

Very truly, J. B. CRENshaw.

Note: Let us have your reaction to Dr. Crenshaw’s very fine suggestion. It must certainly be brought up for definite action at the very next business meeting of the National Alumni Association.
The Basketball Team in Havana

By Dr. J. B. Crenshaw

On December 26, 1925, in the evening, the Georgia Tech basketball team left Atlanta via Jacksonville and Key West for Havana. The party consisted of C. T. Barron, W. N. Crowder, N. A. George, W. W. Hearn, C. A. Jamison, R. B. Morel, George Rosser, H. R. Rauber, Captain George W. Wilde, T. A. Wilder, Coach H. F. Hansen and Dr. J. B. Crenshaw. Not all of these started from Atlanta. Some boarded the train at Macon, others at Jacksonville, others at Miami and one at Key West. Between Jacksonville and Key West, it would have been possible to get on at almost any point as the train crept along at a snail’s pace and, when we reached Key West, we were eight or nine hours late.

We had ample time to take a look at Miami and its many large buildings, some with foundations laid, others up to the second story, and some nearing completion. The big hotels stood out in great shape against the background of blue sky. Long before we reached the Miami station along the roadbed were laid out new divisions with streets paved, and lots marked and here and there a house really occupied. Why the devil those people who expect to make a city beautiful of Miami did not lay out wider streets, is something I cannot understand. Compare those narrow streets with the splendid avenues laid out in the new sections of Havana and you can see what a difference these Havana realtors have made in the beauty and attractiveness of the Greater Havana.

Old Tech boys were on hand at Jacksonville. Red Barron, Ivan Williams, Johnny Marshall, S. M. Carpenter and Walt Godwin greeted the boys and wished them good luck in our first invasion of foreign territory.

We embarked at Key West after passing over the Flagler railway stretching from small key to small key till the tip of Florida is in sight. The trip from Key West to Havana was very pleasant. We went through the custom house in short order and from the wharf to the Sevilla Hotel. This magnificent hotel, consisting of a beautiful old part and a still more beautiful new part is the most striking object that catches the eye of the stranger as the glare of electric lights from the Cuban Capital reddens the sky long before the steamer passes by the Morro and anchors quietly in the harbor behind the narrow entrance. Havana taxis with Cuban jehus rattled us off in short time to the Sevilla, where rooms engaged through the kindness of Mr. Judkins, of the Atlanta Biltmore, were waiting for us.

At the wharf we found Coach Kendringen, of the Havana University, and Applegram and among the crowd that peered through the barriers to get a glimpse of old Tech friends were Armando Basarrate, and I. Santamaria. The next day others came to the hotel and took a keen interest in everything connected with our stay in the city. Santamaria spent most of 4 days with the boys. He watched the boys practice and also the real games. He kept the time for Tech, and escorted some of the boys, who were intent on buying some trinkets (canary birds, Spanish mantillas, and perfume, etc.) for their friends back home, to the stores and acted as interpreter. Armando Basarrate, E.C., 1922, came around with his brother Oscar, who graduated in Civil Engineering in 1920 and won the gold medal offered for the Senior with the best all-round standing, and also his father, Dr. Basarrate. They took us out for a beautiful automobile ride in the suburbs and along the ocean front. Armando also took Coach Hansen and the boys to the Havana Yacht Club, of which he is a member, and they enjoyed a refreshing dip in the ocean. The Yacht Club is made up of the most influential men in Havana. The walls of their club house are covered with splendid trophies.
which they have won in their many contests with other teams. On the wall inside the Club is suspended the steering wheel of the U. S. Battleship Maine, which was blown up one night just before the Spanish-American war began. The brass tiller is kept brightly polished and below it is an inscription telling you just what you have before you. The building is beautiful and stands only a few yards from the water. The most agreeable thing about these visits with Santamaria and Basarrate was the delightful drive through the new, very modern and very Spanish section which has risen like an Arabian night story since 1916 when I last saw Havana. It is a wonderful development.

After the easy time spent by the boys in going from Atlanta to Havana, it was necessary to get some good practice on the University court, which is uncovered with seats along the sides for the spectators and a fine wood floor to play on. The electric lights and the gentle movement of the air also had to be studied and learned. These things, new to the Tech boys, did not seem so far as I can see (I am not a basketball player) to affect our players any more than our opponents of the University and the Yacht Club. The games were fairly well attended and the spectators applauded liberally the good plays of both teams. The morning and evening papers, “El Mundo” and “La Marina,” devoted liberal space to report the games and to appraise the players. Cuts of players appeared the afternoon of our arrival and each game was followed by sport offerings along American lines.

The spectators seemed never to tire of looking at Hearn, and when a long forward pass was made from Nic George to Hearn lying in wait to snag it under the basket and reach over and put it in, they laughed and clapped their hands in glee. When Hearn got off the boat and passed through the crowd he was followed along the wharf and gazed at and measured by every one. In the sport write-up he was dubbed the human telegraph pole (el poste telegrafico humano), Kilometer Hearn and “larga-rugo” long-legged duffer—just such comment as stirs interest and produces laughter, but all good humored. In fact, Hearn made a big hit with the “Habaneros”.

The games were played under cloudless skies with but little wind Tuesday, Wednesday and Friday nights, and Thursday afternoon because Thursday night was New Year’s Eve and every one wished to be at home that night or in the family circle. The scores were as follows:

Tuesday evening, Tech vs. Yacht Club. Tech won 29 to 28.

Wednesday evening, Tech vs. University. Tech won 18 to 6.

Thursday afternoon, Tech vs. Yacht Club. Tech lost 25 to 18.

Friday evening, Tech vs. University. Tech lost 10 to 16.

The authorities, both of the Yacht Club and also of the University, did everything in their power to make our stay pleasant and profitable.

Head Coach Kendrigan and Prof. Carrera of the University had kindly arranged a trip to the Hershey Corporation sugar plant for Saturday morning but everybody had been up late Friday night, the only time they had been free since leaving Atlanta, and ten o’clock A.M. found every one still asleep except myself, and I got up only because I had to straighten out affairs with the hotel and have the twelve tickets at the United Fruit Company’s office put in shape for the afternoon boat. Mr. Looker, coach of the Yacht Club, officiated in two of the games and in other ways was of great help to us. He is a good official and, in penalizing both teams, is making for the best interests of basketball in the Cuban capital.

One of our prominent alumni, Robert A. Anderson, vice-president of the American Steel Company of Cuba, introduced us at the American Club on the Pasco del Prado, the great street and promenade in Havana. Here we had lunch and supper and our needs were attended to in splendid fashion. Coach Hansen gave the Club manager the menu he wished to be provided for the whole team and we all sat down at one table and ate together. It was a very
good arrangement and Friend Anderson was very helpful in arranging it. He also saw us at nearly every meal and came out with his charming wife to see some of the games. Three other old Tech boys were in to see us, S. G. Garcia, who graduated in architecture in 1923. G. G. Granger, graduate of 1918 in electricity, and Laird, who did not complete his course at Tech but expects to come back next fall and go on to graduation.

Garcia has gone into construction work with a large building company and is handling the architectural problems, and at the same time learning the contract side. I saw some of the splendid buildings that his company has erected and judged from their beauty and solidity that he is on the way to success in his profession. Santamaria is with the Cuba Cane-Sugar Corporation, and Granger has had a position for some time with the Hershey Corporation, some twelve miles from Havana. These two companies are among the largest growers of cane and manufacturers of cane-sugar on the island.

One of the great attractions to the sportsman is the Jockey Club, owners and operators of the race course at Oriental Park not far from the city. On Friday afternoon nine of us went out to see the sport and to look at the sport-loving crowd that gathers at such places. No more beautiful place can be imagined than this splendid property—a dead level space with the tropical setting of palms, green grass, a splendid grandstand, with all the paraphernalia of the bookmaking fraternity. We went in, sat down on the grass along the slope at the finish line and watched the various races that were scheduled for that afternoon. It is a mile track and kept in splendid shape. It was a treat also to watch the crowd as the horses passed by and as they swept around the course.

Friday night while everyone was watching the crowds along the Paseo del Prado, Coach Applegram and Kend- ringen of the University took me to see the much discussed game called Jai Lai. This game is played by professional teams brought from Spain. The Cubans have not taken it up in the same way as tennis, baseball and football, though you do see now and then jai lai courts in various parts of the town connected with schools and clubs. The game I witnessed was played by girls, or rather young women, Spanish women, who judging from their strength and skill ought to make fine tennis players. The men's game is the same as the women's but with this difference: the women play with a tennis racquet strung with very strong gut; the men play with a paddle shaped instrument strapped to their forearm. Imagine a court 120 feet long and fifty feet wide, enclosed on one side and at the two ends. The walls are high. The ball is served about fifty feet from one end. It must strike the other end and the opposing player must volley the ball or return it on the first bounce. After the ball strikes the forward wall, it may rebound and strike the side wall or even hit the opposite end wall on the fly or the bounce. In either case the opposing player must return the ball to the front wall and on its rebound it must not go out of the court lines. The game may be played by two or by four players, who then play in pairs. A failure to return the ball counts one point for the opponent and thirty points is the game. Also six girls played, serving in turn, and the girl that made six points first was the winner. The first pair came out and started; then the winner of that pair remained in and counted one point on her score. Another girl now came in while the other three waited. This was continued till one of the players had six points. The racquet gave the girls a long lever to drive the ball and some of them played with a long arm follow-through stroke that would delight the golf fiend. Also the girls did not seem to be afraid to lambast the ball on the fly. A fine point of the game also was to cut the ball and ricochet it against the sidewall and make the opponent play it from his left side or stand right against the wall and play it right-handed, a rather difficult thing to do successfully.

Now you would suppose that this game would have a powerful kick in it for the general public. It does, but why?
The Cubans use this professional game only to gamble on. I was up in the gallery and could look down on the big crowd below. Book makers were going through the crowd taking bets. Each man seemed to be betting with his neighbor and when the score began to get close, the money would pass from man to man on whether this player would win the next point or whether this pair of girls would win the match or the other one. If it was a team, they would be distinguished by wearing apparel as white and blue. If it was a single match the names of the girls would be given. The admission was a dollar and a half. If you have seen the New York Stock Exchange in full blast you can have an idea of the Jai Lai fans when they have their money up on some pair of fair Senoritas. The crowd applauds, the girls take it as the regular daily fare. There is no calling out the names and the applause is only an expression of general satisfaction. The atmosphere is entirely professional but they sure do enjoy themselves. It is not an aristocratic sport like the race track or football, or tennis or yacht racing, or even baseball. In that audience of 500 or more there were not more than twenty women. It is possible that the men’s game draws a larger attendance and a more cultured gathering. I do not know, but is a long way before jai lai can amount to much as an athletic event even in Cuba. It certainly has all the marks of a good game, but it is not as a game as tennis. It astonished me to see what young women could do with a game that required powerful arms, fine back and shoulder muscles and judgment, courage and quick, accurate execution. Jai Lai demands all these, and in abundance.

Havana has many monuments, a great six-mile fifty-foot concrete driveway along the ocean front, a splendid 100 foot avenue in the new part of the town named Fifth Avenue, which is beautified with flowered parks at regular intervals, long lines of trees all trimmed symmetrically to the same heighnt and shape, walkways through the center, and the beautiful green grass make the whole simply perfect. I have never seen anything so attractive in the shape of an avenue as this Fifth Avenue on the way from the center of the city to the Yacht Club and the Country Club.

Another splendid achievement is the two million dollar convent school for boys. Here we have a magnificent three-story stone and marble building which houses three thousand young boys under one roof. From a round central part with a large patio in the middle, the parts are developed like the spokes of a wheel. Garcia, who was educated here, took pleasure in showing me through this wonderful school where the pupils are all taught in the same building which has class rooms, dormitories, laboratories, gymnasium, an astronomical observatory, swimming pool, chapel for students and a private chapel for the theological fathers who are the professors, and a separate dining room for each class and a private dining room for the fathers. It is complete and shows just how the Catholics take care of the education of their young boys. It would be an inspiration to some of the members of our organizations or churches or rich philanthropists in the United States if they could pay a visit to this educational plant in the Cuban capital and see the idea of educating young people developed on such a splendid scale.

One of the greatest pleasures to me on this trip has been the very close personal contact with the families of the boys who represent Georgia Tech in Havana. I spent a most delightful evening with the family of Ile de Fonso Santamaria around the supper-table where I partook of a most delicious meal, and afterwards in conversation with Mr. and Mrs. Santamaria, and other members of the family. Friend Garcia invited me to luncheon at his home in the Vedado where I made the acquaintance of his two charming sisters both lovely girls of the true Spanish type, the older acting as hostess in a very gracious manner. Only my many duties on Saturday January 3, and the uncertainty of the hour at which the steam-er would leave, kept me from lunching at their home in the Vedado with Dr.
Basarate, his two sons, Oscar and Aumando, and his daughters who had visited Atlanta when the boys were at Georgia Tech. It was a real treat to meet these old friends again and to visit Mr. Garcia and Mr. Santamaria in their large establishment on Agucate Street in which they have been engaged as partners for over thirty years. I can not thank them enough for the many favors they all showed myself and the team, and, of course, Georgia Tech feels great pride in these, her sons who represent her so well on foreign soil.

A very pleasant trip on board the United Fruit Steamer from Havana to New Orleans—a two day voyage free from squalls and storms and seasickness, and relieved by games of shuffleboard and steamer quoits, landed us in New Orleans Monday, January 4, too late in the evening for the custom officials to look us over and pass us. The team had to dress in their playing clothes at the boat and go out to Tulane University where a packed gymnasium was waiting to see Tech get trimmed, a feat which was very neatly accomplished by some fast team work of the Tulane players who were certainly “right” that night. Tulane really has a fine team which should go far in the Southern Conference tournament this year. Old Tech boys were there also to greet us and we even had enough to raise a fairly good Tech-a-Reck when the game was half over and at the close. J. A. Goldman was there with his big automobile. J. E. Sims, and Porter also, who has become an ardent Tulane supporter and has helped raise the money for the new Tulane stadium. Dr. Elliott, formerly at Tech, now Professor of Physics at Tulane, President Dinwiddie, Dr. Wilbur Smith, Faculty Chairman of Athletics, gave us a hearty reception preliminary to the coming defeat. After the game was over we went back to the boat, were up early the following morning, passed the custom house officials with but one casualty, took the train for Atlanta at 8:30 A.M. and reached home Wednesday at 1 A.M.

Does such a trip pay? If you mean financially, no. If you mean from the standpoint of pleasure for the boys, ask them. They will say, “Yes, let’s go again next year.” From the standpoint of seeing old Tech boys and relinking the old affection between Tech alumni and Alma Mater, I should say it was well worth the time, the trouble, the hard work of the team and the outlay on the part of the Tech Athletic Association. Certainly the Tech graduates in Havana, especially the native Havana graduates, seemed to enjoy a sight of Tech men very, very much.

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Co-operative Engineering Courses at Tech

Since 1912, the Georgia School of Technology has offered two courses in Engineering, the standard four-year theoretical course as given by other engineering colleges, and a five-year co-operative course for those students who wish to combine practical experience with technical theory. Under the co-operative plan the students spend, alternately, four weeks in college and four weeks in practical engineering work in the shops of Atlanta and the cities within a radius of about three hundred miles. The success of this plan is evidenced by the increase in enrollment from 12 in 1912, to 330 in 1925.

The original plan provided for co-operative education of Mechanical and Electrical Engineers; in September, 1920, the Textile Department arranged
a course to cooperate with textile mills in the education of Textile Engineers. In July, 1925, the Civil Engineering Department established a course to cooperate with the Georgia State Highway, Construction companies, and Civil Engineering firms. In September, 1926, the Ceramics Department will begin a course, to cooperate with the clay industries of Georgia.

At the beginning of this year an Honorary Advisory Board was added to the Cooperative Department. This board is composed of leading engineers in the practical and industrial field, its members being L. A. Downs, President Central of Georgia Railway; G. G. Crawford, President Tennessee Coal, Iron & Railroad Company; B. S. Read, President Southern Bell Telephone Company; P. S. Arkwright, President Georgia Railway and Power Company, and B. L. Bugg, President Atlanta, Birmingham and Atlantic R. R. Company.

Purpose

The Georgia School of Technology has added the Cooperative Engineering Courses to its curricula principally for three reasons: The first is because the modern industries, particularly large engineering corporations, when choosing and selecting engineers for their companies, require and demand of engineer applicants, practical experience. The laboratory experience which our engineering colleges offer their students does not suffice; neither does the experience which they may have in the practical field during their summer vacation, suffice. The modern engineering company will not give graduates of engineering colleges much responsibility until such graduates have had several years of practical experience. As cooperative students study their engineering subjects during their college career, they are also getting practical experience with engineering companies. The five years of college study and practical experience combined, should give a thorough education. From the very nature of the plan, reason will teach one that it is sound.

Students in the course learn what a tool is, and how to use it most efficiently, since they work in elaborate and well equipped shops which contain the latest and most-up-to-date machinery; many of the shops where the students work have maintenance and equipment amounting to sixteen million dollars a year.

With these companies students learn the latest and most modern method of dismantling a locomotive, of installing hydroelectric machinery, of constructing a steel bridge, of repairing and running textile machinery, or of assembling and installing a plant turning clays into beautiful pottery, mouldings, etc. In the up-to-date machine shop the students see the economy in the use of a "single purpose" machine for large production; the college laboratory seldom is equipped with such late machinery.

In getting this practical experience students will, by the end of one year, be able to know for a certainty what particular phase of engineering in which they are mostly interested; they have the opportunity of specializing from a practical side, in the engineering for which they seem best fitted. A much higher percentage of students located and trained in this way follow in their chosen profession than do the graduates of the regular four-year plan of education. The Cooperative students also receive practically the same instruction during their five years at college as the regular students receive during their four years. Of course the cooperative students miss many college activities that the regular students receive, since they are at college only every alternate month, but their practical work should offset what they would miss from the campus life.

The second reason to be considered is the human element in engineering, because engineering corporations require their officials to know the human element of engineering. In the practical field students come in daily contact with their fellow employees who have not had the opportunity of going to college.
A subconscious insight into sociology, economics, ethics and psychology may be had from the daily contact with these men. Perhaps the cooperative students learn nothing during their whole college career, which will be of more help to them than this human engineering feature. If students do not learn the habits, aptitudes, and general characteristics of their fellow men, they will never succeed as executive engineers in any field of science. In fact, many engineering corporations are skeptical of college graduates for this very reason.

Financial Benefits of the Cooperative Plan

A third and cogent reason lies in the fact that the engineering firm which employs cooperative students, compensates them for services rendered. Although the students may not be able to earn all their expenses while they are in college, they can, as a rule, educate themselves under the Cooperative Plan for less than half of the amount required for the regular four-year course. Many students are able to pay all their expenses during their last three years, but as a rule only such students who have had considerable experience in engineering before they entered college are able to do so. When students earn part of their expenses in college, they learn the economic value of money, and waste less than they would were they not forced to earn part of their expenses. Although the earnings of cooperative students sometimes fall short of their expectations before entering college, nevertheless, these earnings are considerable in amount, and enable many students to secure a college education.

Industries Employing Students

The School is at present cooperating with about one hundred firms, including railroads, power companies, gas companies, machinery and mechanical equipment manufacturers, foundries, steel mills, construction and engineering firms, electric companies, telephone companies, textile mills, furniture manufacturing companies, pipe and sewer works, and clay manufacturers. Such companies as The Tennessee Coal, Iron and Railroad, Atlantic Steel, Spalding Foundry, Atlanta Sheet and Metal Works, Moncrief Furnace, Atlanta Utility Works, Lucey Manufacturing Company, Tennessee Furniture Corporation, Fox Manufacturing Company, Willingham-Tift Lumber Company, White Truck Company, Schofield Iron Works, Taylor Iron Works, Walsh & Weidner Company, Fulton Bag and Cotton Mills, Griffin Manufacturing Company, Kincaid Mills, Bibb Manufacturing Company, Richmond Hosiery Mills, Merry Brothers, Dunwoody Brick Company, and numerous other companies furnish employment for a large number of co-operative students.

The Central of Georgia Railway, Atlanta, Birmingham and Atlantic, Atlantic Coast Line; Nashville, Chattanooga and St. Louis, and Savannah and Atlanta employ a large number of the mechanical and electrical engineering students. The Central of Georgia Railway was the first to introduce the Cooperative Plan to its shops, and has at present, eighty-four students in its service. The other railroads have fewer students than this company, but they are gradually increasing their number of cooperative apprentices every year. The railroad companies plan to the best advantage, both to the companies and the students, the kind and variety of work which they will give their students.

The Western Electric, Southern Bell, and Westinghouse Electric, employ a large number of our students. These respective companies train the boys in all their different departments while they are in college. After they graduate they usually send them to other plants throughout the United States for further intensive training. The Southern Bell has begun to place students at their different plants within a two-hundred mile radius of Atlanta.

Professor J. E. McDaniel is the coordinator at the head of the Cooperative Department, the students of which receive their instructions at college under the regular academic professors.
1926 Baseball Schedule

Signs of baseball activities are already beginning to be noticed on Tech Flats. Early as it is Coach Clay has sounded the first call for those who aspire to diamond honors to gather for the coming season. So far and for the next two or three weeks the practice will be confined to the pitching staff, with work-outs under the concrete stands. Official practice for all the candidates will start about the middle of February.

For the first time in the history of the game at Tech, baseball will be played on a diamond separate from Grant Field. New stands are in the process of erection and will be ready before the first game. With a good team, a good schedule and good stands, the season should prove quite an inducement to all the Alumni in the vicinity of the Flats to be present for some of the games. The season promises to be unusually interesting, as the Jackets play many of the best teams in the country. Just take a glance at the schedule.

March 19-20—Clemson College, in Atlanta.
March 26-27—Ohio State, in Atlanta.
April 2-3—Notre Dame, in Atlanta.
April 9-10—Auburn, in Atlanta.
April 14-15—Univ. of Ala., in Atlanta.
April 16-17—Univ. of Ala., in Montgomery, Ala.
April 21-22—Oglethorpe, in Atlanta.
April 23-24—Vanderbilt, in Atlanta.
April 26-27—Univ. of N. C., Chapel Hill, N. C.
April 28-29—N. C. State, Raleigh, N. C.
April 30—Univ. of Va., Charlottesville, Va.
May 1—Univ. of Va., Charlottesville, Va.
May 7-8—Georgia, Atlanta or Athens.
May 14-15—Georgia, Atlanta or Athens.

Cagers Show Promise

Georgia Tech's Conference basketball scores to date are as follows:
Tech, 18; Tulane, 33.
Tech, 35; Georgia 30.
Tech, 28; Auburn 32.
Tech, 31; Tulane 18.
Tech, 23; Marquette, 19.
Tech, 23; Vanderbilt, 27.
Tech, 24; Kentucky, 25.
Tech, 23; N. C. State 22.
Tech, 29; Georgia 33.

Dope has not played a very important part in the present basketball season nor have the dopesters had very much luck in predicting the outcome of most of the games. The season has been full of upsets and bad breaks, as many of the games have been lost by one and two point margins.

After defeating the University of Georgia by a score of 35 to 30 the Jackets traveled to Auburn and met the Auburn Tigers on January 9. A hard fought game was played but the quickness of the Tigers and several long shots from the middle of the floor settled the contest in favor of Auburn by 32 to 28. Ellis, for Auburn, was high point man of the game, ringing up twelve points, while Moreland led the Tech attack with seven points.

The next important engagement was with Tulane on January 11, in the Tech Gym. The Jackets came within two points of reversing the former score with that quintet, the final score being 31-18. While the score was one-sided it was a hard fought game until the last few minutes when the Tech forwards went wild and succeeded in rolling up ten points. Tiny Hearn was the outstanding figure of the game as he was responsible for 16 of the 31 points. Moreland and Rosser accounted for the others. Hennican, an All-Southern forward, and Wilson, a new man in the Tulane line-up were the leading scorers of the Tulane offense.

Tuesday afternoon, January 12, the Jackets played the strong Marquette team from Wisconsin, which had defeat-
ed Vanderbilt the night before, and won a 23 to 19 victory. Consistent playing on the part of the Jackets was responsible for the victory. The entire game was fast and hard fought. The northern quintet displayed some of the best defensive work seen on the Tech court this year. Ragner, of Marquette, with ten points, was the high point man of the game.

On the week-end road trip on January 15, the Jackets met the fast teams from Kentucky and Vanderbilt, being defeated by both. Friday night the Jackets were defeated by Vanderbilt, 27 to 23, and Saturday night they lost to Kentucky, 25 to 24.

The game with Vandy was featured by the playing of J. Stuart, Vandy center, who shot fifteen points. Nick George and Hearn also showed up mighty well. The Jackets had several chances to even the score but inaccurate goal shooting kept them from doing so. This game was a surprise after Tech had defeated Marquette, the conquerors of Vandy.

The Kentucky game was one of the most sensational ever witnessed by Kentucky fans. There was never more than three points advantage either way except for one stage of the game when Kentucky led by five points, and this gap did not last very long. Tech led at the half by one point; Kentucky led in the final score by one point. More than five thousand people saw the game.

Returning from this trip the Jackets met the N. C. State five on the Tech court and defeated them by a score of 23 to 22, which was considered an upset. Player, a new comer in the Tech ranks, was the outstanding star of the contest.

With the victory of the night before fresh in their minds the Jackets swept the South Carolina quintet off their feet for the first half of the game the following Saturday night and when the first half ended the score was 13 to 7 in favor of the Jackets. Substitution however, proved fatal to the game and before the second half was over the Carolina five succeeded in gaining a lead which the Jackets were never able to overcome. Bill Rogers, of South Carolina, was high point scorer of the game.

The second game of the Tech-Georgia series was played in Athens on January 29. The Bulldogs playing one of the best games of the season completely swamped the Jackets and registered a 33 to 29 victory. While the final score was rather close it was the result of a rally in the second half as the Bulldogs led 20 to 8 when the first half was over. The Jackets, however, staged an amazing comeback in the second half and succeeded in closing the gap to within four points when the final whistle brought the game to a close. More than three thousand people saw this contest.

---

Building Program Requires More Property

At a meeting of the executive board Wednesday, January 6, it was definitely decided that the building program for this year will be limited to one new building and the remodeling of two old ones.

The new building will be a dormitory which will be named "The Senator Harris Dormitory" and it is to be built near the Julius Brown Dormitory facing Techwood Drive. The Senator Harris Dormitory will be a larger building than the Julius Brown and it will cost approximately $100,000. Plans for the building are being drawn by the Architectural Department of Georgia Tech.

The dormitory will be one of the proposed units of a quadrangle system with central dining hall. In order to make this extension, it was necessary for the school to purchase 322 Williams street and adjacent lot, transactions for which were closed on January 23, for $18,000 in cash from the funds of the Greater Georgia Tech Campaign. This recent acquisition gives Tech possession of the greater part of the block bounded by North Avenue, Williams St., Third St., and Techwood Drive.

The remodeling of Swann Dormitory is for the purpose of making it into class rooms and lecture halls which will
be used by the Commerce Department. The changes necessary to be made will cost $15,000. The Swann Dormitory is a memorial building so only a slight change will be made in the name. The Jane Austel Swann Building will be the new name.

The Civil Engineering Department will have new quarters in the Mechanical Building which is to be enlarged and remodeled. At present the Civil Department is the most widely scattered and poorly arranged of any department on the campus. When the Mechanical Building has been enlarged it will be a block long and a half block wide. The new shops will be in this building and new equipment will be added. The appropriation for work on this building is $10,000.

---

Tech Receives Valuable Exhibits

An exhibit of the products of coal and iron ore was recently given to the Geological Department of Georgia Tech by Mr. George G. Crawford, President of the Tennessee Coal, Iron and R. R. Co., Birmingham, Ala. Mr. Crawford is a member of the first graduation class at Georgia Tech and is a trustee of the college.

The display was given with the compliments of the Tenn. Coal, Iron and R. R. Co., whose officials used a great deal of care and incurred considerable expense in the collection, crating, and shipping of it. They even went so far as to send Mr. Brannon, one of their employees, to Atlanta to supervise the unpacking and arranging of the exhibit.

The products shown are commercial ammonium sulphate, domestic coke, metallurgical coke, braize coke, crude naphthaline, crude tar, crude light oil, crude heavy naphtha, refined motor benzol, chemically pure benzol, refined light naphtha, duplex basic sulphate, washed coal, coke, ferro silicon, red ore, brown ore, limestone, and ferro manganese. The iron and steel exhibited consists of tools, rods, rails, and beams of almost every size and shape imaginable.

The cabinet in which the exhibit is displayed is made of solid mahogany and is lighted with long tube lights.

In a statement made by Professor Dunn he said that the exhibit is worth thousands of dollars to the school.

---

Olympic Stars To Meet

Charlie Paddock, Coach Harold Barron and Homer Whelchel, all former Olympic stars, will stage an exhibition field meet either at Grant Field or on the Emory track February 20, in connection with a series of lectures that will be given by Paddock on track and how to stay fit.

Paddock will demonstrate how to sprint and will actually do quite a bit of his fast stepping for the fans and besides he will demonstrate how to start and the proper way a sprinter should run a race.

This will be a treat for track lovers, since Paddock is one of the world's foremost track athletes, holding the world's record in the 100-yard and the 220-yard dashes. He has staged exhibitions all over the east but this is his first trip south.

Everyone will be glad to see Harold Barron, Tech track coach, run the hurdles. He was a member of the 1920 Olympic team, doing both the low and the high hurdles. Barron was one of the outstanding track men in the east during his college career at Penn State, where he was a member of the cinder team for four years. After completing his college course he took up track coaching at the University of New York, where he spent one year, coming to Tech last fall as trainer and coach.
Homer Whelchel will again demonstrate how to throw the javelin, at which occupation he gained national reputation while a student at Tech. After graduating he joined the 1924 American Olympic team, going to France, and in a dual meet with the British Olympic team, Whelchel won the javelin throw easily. At the present time he holds the southern record for the javelin, which was established at the annual southern relays as held at Tech each spring.

Positions and Applicants

The Victor X-Ray Corporation, 77 Forrest Avenue, Atlanta, Georgia, is in need of an electrical graduate.

Mr. S. S. Selig, The Selig Company, 340 Marietta Street, Atlanta, wants a chemical engineer, preferably, for work in his plant.

Supt. R. B. Daniel, Columbus Public Schools, Columbus, Georgia, needs a man of the right qualifications to teach mathematics and science.

Mr. Hamburger, Atlanta Paper Company, Atlanta, Georgia, requires the services of a graduate engineer for work in plant.

United States Government, Civil Service, needs men for various kinds of work. Application blanks on file in our office and the different civil service headquarters.

Mr. D. C. Black, Buick Motor Cars, Atlanta, Georgia, can use two Tech men, not necessarily graduates, as salesmen; fine opportunities. Substantial earnings to those of initiative and willingness to work.

Mr. Robinson, office Mr. Wills, Ga. Ry. & Power Co., Atlanta, Ga., wants a man for full time work in their radio development department. Can also use a student or someone else on part time. Radio experience desired.

Mr. E. L. Leffingwell, Chain Belt Co., 162 Atwood St., Atlanta, wants a man to train in factory for eventual management of Southern office.

Mr. V. R. Currie, General Supervisor, Employment and Service Div., The Texas Co., Houston, Tex., is in need of young graduate mechanical engineers. Salaries of $137.50 to $150.00 for recent graduates, and more for those of practical experience.

Mr. R. S. Mather, Mather Bros. Furniture Co., Atlanta, has openings for seven or eight more Tech graduates, for sales and office work.

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Georgia
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Alumni
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Incorrect Addresses

We would appreciate the correct addresses of those listed under this heading and of those who are not getting the Alumnus regularly during the school year. Everyone is wanted; all former students of Georgia Tech are eligible.

B. R. Adams
E. F. Adams
T. D. Atkins
Neal T. Alexander
H. R. Allison
A. B. Anderson
David J. Arnold
A. U. Avera
Linnon D. Baggs
R. A. Ballowe
R. E. Barnes
R. A. Barrett
R. C. Bass
F. Baxley
J. R. Beach
R. E. Beamon
Wm. R. Bedell
E. Bell
R. S. Bell
Robt. H. Betts
A. D. Black
P. K. Blackwell
Harold P. Bloodworth
C. F. Bond
W. T. Bond
L. T. Boston
Horace Bradley
Samuel E. Braswell
W. H. Burkhart
R. L. Bush
J. W. Camp
W. H. Camp
E. H. Carman, Jr.
D. E. Carroll
J. B. Cates
J. C. Chalmers
A. B. Clein
J. M. Clyatt
P. D. Coates
T. R. Coggins
R. T. Cole
C. M. Colon
S. B. Cook
W. C. Couch
J. E. Craig
J. S. Crawford
H. L. Curry
C. L. Davidson
A. W. Davis
Harry L. Davis
W. J. DeLoach
A. C. DeLorme
J. S. Disosway
W. E. Dobins
J. M. Donalson
Robson Dunwoody
R. L. Durr
Allen Edwards
James F. Edwards
S. B. Edwards
B. J. Eiseman
Harry Ellerbe
L. G. Evans
John F. Ficken
Joe Finklestein
H. S. Fox
H. Freeman
J. E. Fuller
W. M. Fuller
W. H. Gardner
S. A. Gaylo
R. A. Goodburn
E. W. Gray
J. C. Greenfield, Jr.
C. L. Groover
M. S. Hall
Karl H. Haller
W. F. Hare
S. J. Hargrove
C. W. Harley
H. H. Harris
R. M. Harris
Frank Harrison
William D. Hartford
H. P. Hay
C. S. Hayes
George H. Hazelhurst
W. S. Heyward
A. R. Hill
W. J. Hill, Jr.
T. L. Hodges
Columbus J. Hollingsworth
J. G. Holmes
S. G. Holmes
B. C. Holtzclaw
O. J. Hood
J. W. Houseal
W. R. Hucks
H. A. Hudson
Henry H. Hull
Wm. N. Huley
E. E. Hunt
J. L. Ingles
Walter P. Inman
G. A. Jackson
J. E. Johnson
J. T. Johnson
C. M. Kennedy, Jr.
John P. Kennedy, Jr.
G. D. King
R. L. King
W. S. Kinnebrew
W. H. Kirkwood
Gray Lambert
F. B. Langley
M. Lawrence
A. L. Leonard
H. B. Limbaugh
Ed. Lycett
W. L. Manning
R. L. Marchman
W. A. Markley
W. C. Mather
W. J. Mathias
J. A. Miller
C. C. Milner
Joseph W. Milner
J. T. Mitchell
A. J. Moses
A. H. Murphy
J. B. Murray
J. R. Murphy
H. W. McCathern
W. W. McCravy
C. R. McCutcheon
R. Keith McEwan
John A. McGlothlin
W. M. McRae
F. P. Newman
George Newman
Geo. D. Newton
J. F. Overby
D. W. Osborne
H. C. Patrick
A. D. Partridge
J. W. Patterson
E. F. Paulk
W. G. Perry
A. W. Perry
P. Pinkston
J. C. Platt
J. F. Posey
C. W. Powell
E. C. Pritchett
J. Milton Puder
R. P. Radford
Guy A. Reddick
W. T. Reed
Austin G. Reese
W. W. Roberts
D. D. Robertson
J. M. Robinson
J. L. Saperstein
R. H. Scott
H. Segal
E. G. Shelor
Eugene Siebert
C. M. Simmons
C. C. Skelton
P. H. Sloan
C. D. Smith
D. B. Smith
F. J. Sorell
W. N. Stakely
N. F. Stambaugh
N. H. Stambaugh
J. A. Stapler
J. M. Stewart, Jr.
N. V. Stewart
S. C. Stoney
Benjamin Strauss
W. T. Strozier
J. M. Sutton
T. H. Tennent
C. D. Terrett
J. E. Thompson
Addenda to Directory

As corrections and additions are received to our Directory number, we shall publish them as addenda to the September issue under this heading.

In order to keep your Directory up to date, we would suggest that you clip out and paste the names shown in these columns under their proper classes and index, in alphabetical arrangement.

1902—Page 8.

Strickland, H. L., B.S. in M.E.—P. O. Box 2276, Durban Natal, South Africa.

1903—Page 9.


1904—Page 9.


1905—Page 10.


1906—Page 11.

Smith, Burton H.—Charlotte Bagging Co., Charlotte, N. C.

1907—Page 12.


1908—Page 13.


1910—Page 14.

Steffer, S. U.—Chattanooga, Tenn.

1911—Page 15.

Holt, F. W., Jr., B.S. in C.E.—863 Peachtree St., Apt. 4, Atlanta, Ga.

1912—Page 17.


1913—Page 17.

Ashley, D. C., B.S. in C.E.—Deceased.


1914—Page 19.

Brooks, O. L., B.S. in M.E.—95 Maiden Lane, New York City.


M. M. Walton
Willis Wells
C. West
R. W. Wethington
Z. Whitehurst
C. A. Williams
H. A. Williams

J. L. Wilson
J. D. Wingfield
L. W. Wittig
B. L. Wood
W. L. Wooten
F. D. Wright
Eugene F. Wrigley

Everhart, Edgar, Jr., B.S. in M.E.—Box 131, Tallmadge, Ohio.
Titshaw, E. F., B.S. in E.E.—Fire Service Inspector, Atlanta Water Works, Box 1814, Atlanta, Ga.

1915—Page 20.


Page 21.


1917—Page 23.


Page 25.

Vandiver, Chas. W., B.S. in M.E.—Durham Public Service Co., Durham, N. C.

1918—Page 25.


Page 26.


1919—Page 27.


Fraser, J. M., B.C.S.—Fort Myers Realty Co., Fort Myers, Fla.

Page 28.

Wiggs, J. W.—Structural Draughtsman, Converse Bridge & Steel Co., Chattanooga, Tenn.

1920—Page 29.


Page 30.

Whiteley, W. R.—453 Luckie St., Atlanta, Ga.

1921—Page 31.

Hays, C. S., B.S. in E.E.—380 Oakland Ave.,
Atlanta, Ga.

Hyers, W. K., B.S. in E.C.—Chemist, Coca-
Cola Company, Chicago, Ill.

Morgan, W. A., B.S. in E.C.—University of

Page 32.

Procter, W. L., Jr., Sec. Tex.—5227 Cornell
Ave., Chicago, Ill.

1922—Page 37.

Hicks, H. E., B.S. in C.E.—Asst. Engr. Holly-
wood Develop. & Harbor Co., Hollywood,
Fla.

Page 38.

Hexsey, J. M., B.S. in Arch.—750 Ponce de
Leon Ave., Atlanta, Ga.

Khoury, J. A., B.S. in E.E., Ce-op.—852 N. W.
1st St., Miami, Fla.


Page 39.

Ross, W. A.—Westinghouse Elec. & Mfg. Co.,
835 Maison Blanche Bldg., New Orleans, La.

Dixie Const. Co., 5223 6th Ave., South Bir-
mingham, Ala.

Wilkinson, J. J.—214 Palmer Bldg., Atlanta,
Ga.

1925—Page 40.

Bell, J. Frank, B.S. in M.E.—Bruce and Pol-
lard, Realtors, Bradenton, Fla.

Brown, Nathan A., Jr., B.S. in Com.—Mgr.
Retail Credit Co., Davenport, Iowa.

Campbell, W. J. B.S. in E.E.—c/o Columbus
Elec. & Power Co., Columbus, Ga.

24 N. Second Ave., Memphis, Tenn.

Page 41.

Graddock, L. E., B.S. in C.E.—Winnsboro, S. C.

Hill, J. J., B.S. in C.E.—Box 733, Haynes city,
Fla.

Page 42.

Khoury, G. R.—852 N. W. 1st St., Miami, Fla.

Bradley St., Schenectady, N. Y.

Perry, G. M., B.S. in Com.—Div. Disbursement
Office, South Tel. & Tel. Co., Atlanta, Ga.

ville, Fla.

Page 43.

Tennison, A. A., B.S. in Com.—307 West 25th
St., Oklahoma City, Okla.

Atlanta, Ga.

Walker, R. E., Jr., B.S. in T.E.—c/o Lock
Green Co., Healey Bldg., Atlanta, Ga.

1924—Page 44.

Brasfield, Chas. T., Jr., B.S. in E.E.—Office
Distribution, Alabama Power Co.

Cash, Wm. H., B.S. in C.E.—P. O. Box 1510,
New Orleans, La.

Clifford, V. M.—Sales Mgr. Gulf Coast Real-
tors, Sarasota, Fla.

Page 45.

Hammond, Edw. C., B.S. in Com.—850 Peach-
tree, Atlanta, Ga.

Honour, J. W.—Southern Bell, Jacksonville,
Fla.

Page 46.

Parker, W. C.—747 Wheaton St., Savannah,
Ga.

Robert, H. C., Jr., B.S. in C.E.—Cocanut
Grove Engineers, Cocanaut Grove, Fla.

Page 47.

Taylor, Jas. H., Jr., B.S. in Com.—Box 8203,
Miami, Fla.

1925—Page 48.

Bell, Thomas E., B.S. in Eng.—Sou. Bell T. &
T. Co., Charlotte, N. C.

Carmichael, J. R., B.S. in Eng.—c/o Washing-

Page 49.

Dobbs, Irving S., B.S. in Science—398 Williams
St., Atlanta, Ga.

Floyd, Middleton B., B.S. in E.E.—Asst. on
Transmission Sou. Bell T. & T. Co., Char-
lotte, N. C.

Co., New Orleans, La.

Huguley, T. C.—University of Alabama, Uni-
versity, Ala.

Page 50.

Mitchell, Thomas H., B.S. in Eng.—c/o D. B.
Mitchell, Box 708 Bartow, Fla.

Newton, Frank, B.S. in E.E.—Sou. Bell T. &
T. Co., Atlanta, Ga.

Page 51.

Robey, Curly S., B.S. in Eng.—Western Elec.
Co., Supply Branch, Atlanta, Ga.

Rubin, Ernest, B.S. in Sci.—Yale University,
New Haven, Conn.

Walkley, Edwin S., Cerf. in Com.—71 Cumber-
land Circle, Atlanta, Ga.

Werner, August P., B.S. in E.E.—131 Belmont
St., Warren, Ohio.

Atlanta, Ga.

INDEX

Clifton, V. S., 44
Deadwyl er, C. L., 40
Gaston, M. H., 49
Hamlett, J. E., 31
Hicks, H. E., 37
Honour, J. W., 45
Huguley, T. C., 49
McCord, Elie, 19
Smith, B. H., 11
Steefjen, S. U., 14
Thrash, J. L., 10
Wages, J. W., 28

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Bowie—C. D. Wells, 102 E. Wise St.
Brownwood—T. B. Amis, Howard Payne College.
Cameron—Chas. L. Sens.
Cleburne—Homer M. Carter, 508 N. Robinson St.
Corsicana—R. S. Neblett.

Denton—R. D. Huffines.
Fort Worth—C. C. Carson, 300 S. Main St.; Lewis G. Pitts, Worth Mills; John T. Siewman, Northern Texas Traction Co.; D. D. Towers, 2121 Edwin St.
Greenville—A. C. English, 2818 Henry St.; Joseph R. Thompson, 281 Jones St.
Lancaster—E. T. Grundy.
Longview—H. B. Hollis.
Lubbock—Prof. E. W. Camp, Texas Tech.
Mineola—P. J. Moore.
Mineral Wells—Mr. A. A. Yeager.
Smithfield—S. D. Boyer, Route No. 2. Terrell—L. Richardson, 205 Pacific Ave.
Van Alstyne—H. E. Welker.
Victoria—D. Rathbone.
Waco—Mr. G. E. Armstrong, 1829 Austin Ave.; C. M. Brazelton, 1503 Austin Ave.
Wharton—J. H. Berring.
Wichita—Dudley S. Golding, Natl. Bank Bldg.

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—"Conditions which Influence Culvert Re-placement."
—"Some Reports of Corrugated Culverts in Railway Service."
—"Preventing Highway Erosion with Corrugated Pipe."
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